

Product Information

Fluorad™

3M

Fluorochemical Surfactant

FC-143

RJZ010412

EID935821

P000032164

**Exhibit
1338**

State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

STATE_07543938

1338.0001

Fluorad™ Fluorochemical Surfactant FC-143

Introduction

Fluorad™ Fluorochemical Surfactant FC-143 is an anionic fluorochemical surfactant particularly useful as an emulsifier in the polymerization of fluorinated monomers where its surface activity and highly fluorinated nature of micelles formed in aqueous media combine to give this unique utility. It is also an effective wetting agent in alkaline media. FC-143 may be described chemically as ammonium perfluorooctanoate.

Typical Properties (Not for Specification Purposes)

Form.....Light Colored Powder
Composition.....100% Ammonium Perfluoroalkyl Carboxylates
pH (0.5 Aqueous Soln).....~5
Melting Point.....Decomposes at 130°C (266°F)
Bulk Density (Grams/cc).....0.4-0.5

Solubility

FC-143 is quite soluble in polar solvents such as water, alcohol, and acetates or ethyl acetate.

Solvent

Solubility of FC-143 at 25°C
(grams of FC-143/100 grams of solvent)

Carbon Tetrachloride	0
Perchloroethylene	0
Heptane	0
Toluene	0
Nitric Acid, 40%	.3
Sulfuric Acid, 95%	.3
Distilled Water	> 100
Ethyl Alcohol	> 100
Acetone	> 100

Surface Tension

Although FC-143 is soluble in certain organic solvents, it is surface active only in aqueous systems. Solubility is limited in inorganic acids, however, sufficient solubility does exist to allow FC-143 to act as a surface tension depressant in these systems.

Surface Tension at 25°C
(dynes/cm)

Solvent	grams of FC-143/100 grams of solvent	0.0	0.001	0.01	0.1
Distilled Water:		72	60	53	44
Hydrochloric Acid, 16.5%		72	59	51	26*
Hydrochloric Acid, 37%		67	65	59	30*
Nitric Acid, 10%		71	56	31	19
Nitric Acid, 40%		68	56	40	22
Nitric Acid, 70%		56	54	47	25*
Sulfuric Acid, 10%		73	48	29	22*
Sulfuric Acid, 50%		76	72	69	25*
Sulfuric Acid, 95%		58	57	55	32
Potassium Hydroxide, 10%		77	43	23	20
Potassium Hydroxide, 30%		63	22	19	18*

*Not all characterized

EID935822

P000032165

RJ2010413

3M Corporate Headquarters

St. Paul
Building 223-65-04, 3M Center
St. Paul, MN 55144 1000
312/733 1710 (Ordering Product & Pricing)
612/736 1394 (Literature Requests)
612/733 5634 (Technical Assistance)

Representative Locations

Anchorage
11151 Calaska Circle
Anchorage, AK 99515
907/522 5200

Atlanta
2860 Bankers Industrial Drive
Atlanta, GA 30360
404/447 7000
800/241 3670 (Inside GA)
800/241 3689 (Outside GA)

Boston
155 Fourth Avenue
Needham Heights, MA 02194
617/455 7254
800/851 1515 (Inside MA)
800/634 0023 (Outside MA)

Chicago
908 North Elm Street
Hinsdale, IL 60521
312/920 1000
800/942 3961

Cincinnati
4835 Pars Drive
Mail to: PO Box 14807
Cincinnati, OH 45214
513/482 3157
800/523 4441 (OH)
800/242 4100 (MI, IN & KY)

Dallas
2121 Santa Anna Avenue
Mail to: PO Box 26158
Dallas, TX 75228
214/324 8172
800/442 8046 (Inside TX)
800/527 1648 (Outside TX)

Honolulu
4443 Malaal Street
Honolulu, HI 96818
808/422 2721

London, Ontario
PO Box 5757, Terminal A
London, Ontario N6A4T1
519/451 2500

Los Angeles
6023 South Garfield Avenue
Los Angeles, CA 90040
213/728 6361
800/221 1045 (Inside CA)
800/221 1046 (Outside CA)

New York-Philadelphia
5698 Rising Sun Avenue
Philadelphia, PA 19120
215/728 5300

San Francisco
1241 East Hillsdale Blvd.
Foster City, CA 94404
415/571 6700
800/221 1045 (Inside CA)
800/221 1046 (Outside CA)

Important Notice to Purchaser: All statements, technical information and recommendations herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR CONSEQUENTIAL, ARISING OUT OF THE USE OF OR THE INABILITY TO USE THE PRODUCT. No statement or recommendation not contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

06-0211-4254

Revised 9/87

"MADE IN USA WITH 3M OWNED PATENT, BUT NOT PROPERTY, OF 3M"

3M Industrial Chemical Products Division
Building 223-65-04, 3M Center
St. Paul, MN 55144-1000



EID935823

P000032166

RJ2010414

STATE_07543940

1338.0003